

TSMC00-079C

In the claims:

Please amend the following claims:

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1.(amended) A process for forming a layer of low dielectric constant material having a predetermined thickness, comprising:

depositing a first layer of low dielectric constant material by means of plasma enhanced vapor deposition, at a first level of power applied to only said plasma;

C<sub>1</sub> then, with no intervening steps, depositing a second layer of the low dielectric constant material by means of plasma enhanced vapor deposition, at a second power level, applied to only said plasma, that is higher than said first power level; and

repeating the preceding two steps until the predetermined thickness is reached.

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9.(amended) A process for depositing a layer of black diamond on a silicon wafer to a predetermined thickness, comprising:

C<sub>2</sub> through chemical vapor deposition, from a first gaseous mixture of methyl silane and nitrous oxide, enhanced by a helium plasma at a power level to only said plasma that is less than about 70 watts, depositing a low power layer of black diamond for about 10 seconds, thereby forming a layer having a thickness between about 700 and 1,000 Angstroms;

then through chemical vapor deposition, from a second gaseous mixture of methyl

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C2<sup>nd</sup>  
silane, nitrous oxide, and oxygen, enhanced by a helium plasma at a power level, to only said plasma, of between about 70 and 200 watts, depositing onto said low power layer a high power layer of black diamond for about 10 seconds, thereby forming a layer having a thickness between about 700 and 1,000 Angstroms; and

repeating the preceding two steps until said predetermined thickness is reached.

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14.(amended) A process for forming a dual damascene structure on a silicon wafer, comprising:

C3  
through chemical vapor deposition, from a first gaseous mixture of methyl silane and nitrous oxide, enhanced by a helium plasma at a power level, to only said plasma, that is less than about 70 watts, depositing a low power layer of black diamond for about 10 seconds, thereby forming a layer having a thickness between about 700 and 1,000 Angstroms;

then through chemical vapor deposition, from a second gaseous mixture of methyl silane, nitrous oxide, and oxygen, enhanced by a helium plasma at a power level, to only said plasma, of between about 70 and 200 watts, depositing onto said low power layer a high power layer of black diamond for about 10 seconds, thereby forming a layer having a thickness between about 700 and 1,000 Angstroms;

repeating the preceding two steps until a completed black diamond layer has been formed;

patterning and etching said completed black diamond layer in order to form a wiring